

A new species of the genus *Evarcha* (Araneae: Salticidae) from Japan

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Abstract — A new salticid species is described from Japan under the name of *Evarcha selenaria*. Males of the species are easily distinguishable from those of other *Evarcha* species by their genital morphologies. Females are barely distinguishable by interior genital morphologies.

Key words — Taxonomy, Salticidae, *Evarcha*, new species, Ryukyu Islands

Introduction

Evarcha is a large genus in the family Salticidae. Up to the present, 84 species are described from Holarctic, Afrotropical and Oriental regions, including five in Japan (Logunov & Marusik 2000; Ono et al. 2009; Prószyński 2011).

Recently, we recognized the occurrence of a new *Evarcha* species, from the Sakishima Islands, southern area of the Ryukyu Islands. The species, *Evarcha selenaria* sp. nov. will be described in the present paper. Though Chikuni (1989, 2008) reported an unknown species of the genus from the Ryukyu Islands, it seems to be different from the present new species.

Type series are deposited in the collection of the Department of Zoology, National Museum of Nature and Science, Tokyo.

The following abbreviations are used: ALE, anterior lateral eye; AME, anterior median eye; PLE, posterior lateral eye; PME, posterior median eye; RTA, retrolateral tibial apophysis.

Genus *Evarcha* Simon 1902

Type species: *Evarcha flammata* (Clerck 1757)

For diagnosis and further information, see Rakov (1997).

Evarcha selenaria sp. nov.

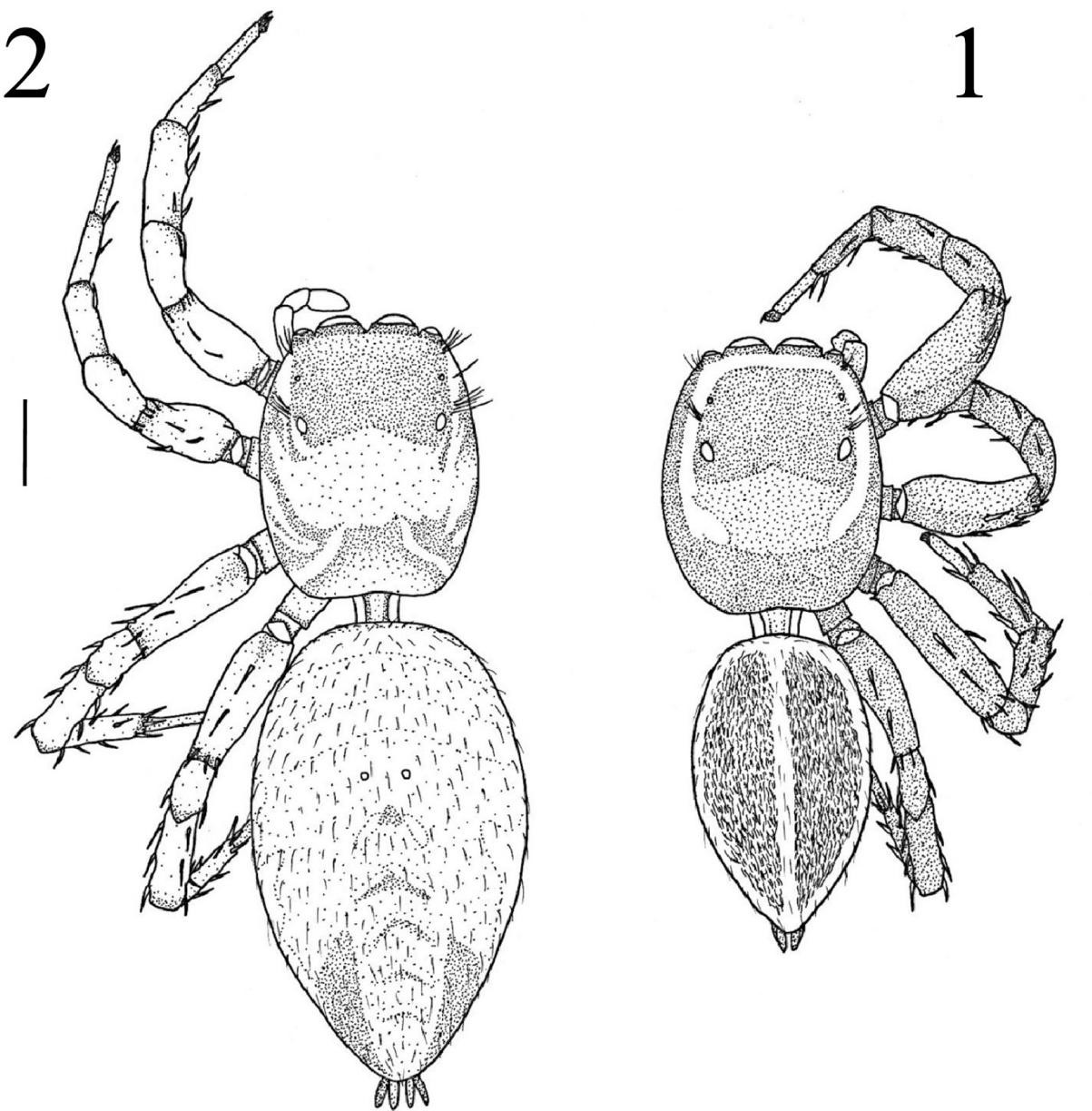
[Japanese name: Mikazuki-haetori]
(Figs. 1–9)

Type series. Holotype: ♂, Kaneshiro, Ishigakijima Is., Okinawa Pref., Japan, 4-IV-2010, T. Suguro leg. (NSMT-Ar 9805). Allotype: ♀, same data as the holotype (NSMT-Ar 9806). Paratypes: 1♂, Uehara, Iriomotejima Is., Okinawa

Pref., Japan, 26-III-1985, A. Tanikawa leg. (NSMT-Ar 9889); 1♂, Otomi, Iriomotejima Is., Okinawa Pref., Japan, 14-VIII-1985, A. Tanikawa leg. (NSMT-Ar 9890); 1♀, Shirahama, Iriomotejima Is., Okinawa Pref., Japan, 3-I-1991, A. Tanikawa leg. (NSMT-Ar 9891); 1♀, same data as the holotype (NSMT-Ar 9892).

Other specimens examined. Japan: Okinawa Pref.: 1♂, Tsukigahama, Iriomotejima Is., 1-IV-1985, A. Tanikawa leg.; 1♀, Hoshidate, Iriomotejima Is., 12-VIII-1987, A. Tanikawa leg.; 1♀, Haimida, Iriomotejima Is., 31-III-1988, A. Tanikawa leg.; 1♂, Nagura, Ishigakijima Is., 3-III-2000, Y. G. Baba leg.; 2♂, Yoshino, Miyakojima Is., 11-III-2010, T. Suguro leg.; 1♀, Yonehara, Ishigakijima Is., 4-IV-2010, T. Suguro leg.; 2♀, Uehara, Iriomotejima Is., 5-IV-2010, T. Suguro leg.

Description. Male holotype and female allotype as shown in Figs. 1–2. Measurement (in mm, male holotype and female allotype; variation in parentheses). Body length ♂ 6.83 (5.55–7.23), ♀ 7.75 (6.65–8.60); carapace length ♂ 3.50 (2.75–3.75), ♀ 3.25 (3.20–3.75); width ♂ 2.65 (2.10–2.87), ♀ 2.50 (2.48–2.83); height ♂ 1.75 (1.43–1.85), ♀ 1.73 (1.60–1.85); abdomen length ♂ 3.33 (2.80–4.85), ♀ 4.50 (3.40–4.95); width ♂ 2.15 (1.85–2.35), ♀ 3.00 (2.28–3.07). Eye field: width of eye row I ♂ 2.03 (1.75–2.08), ♀ 1.98 (1.90–2.20); width of eye row III ♂ 2.20 (1.88–2.30), ♀ 2.10 (2.03–2.35); length of eye row ♂ 1.35 (1.18–1.48), ♀ 1.28 (1.28–1.48); half length of eye row ♂ 0.68 (0.60–0.70), ♀ 0.65 (0.62–0.72); width of eye row I / width of eye row III ♂ 0.92 (0.90–0.96), ♀ 0.94 (0.93–0.94); AME diameter ♂ 0.60 (0.50–0.63), ♀ 0.62 (0.57–0.67); ALE / AME ♂ 0.53 (0.51–0.56), ♀ 0.52 (0.48–0.58); ALE / PLE ♂ 1.14 (1.00–1.14), ♀ 1.07 (1.00–1.18); PME / PLE ♂ 0.29 (0.25–0.29), ♀ 0.27 (0.27–0.29). Chelicera with one retromarginal and two promarginal teeth in both sexes. Length of legs as shown in Table 1.



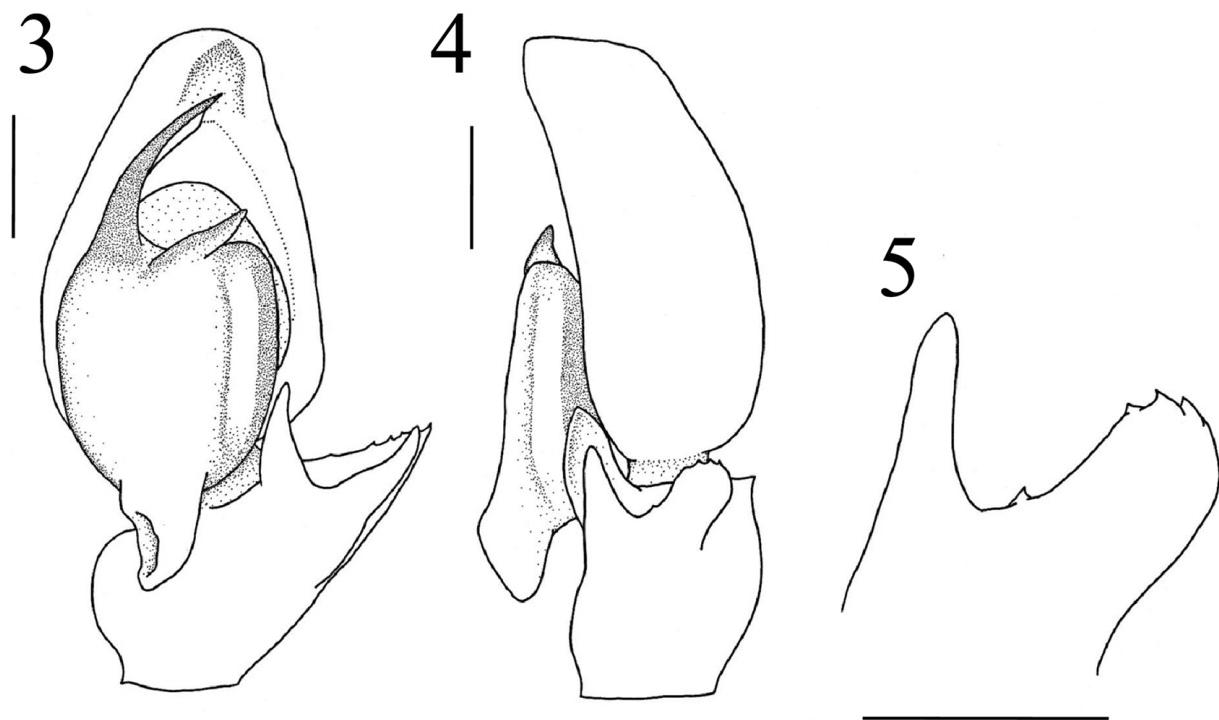
Figs. 1–2. *Evarcha selenaria* sp. nov. 1. Male, dorsal view; 2. Female, dorsal view. Scales = 1.0 mm.

Table 1. Measurements of leg segments of *Evarcha selenaria* sp. nov. (♂/♀; in mm).

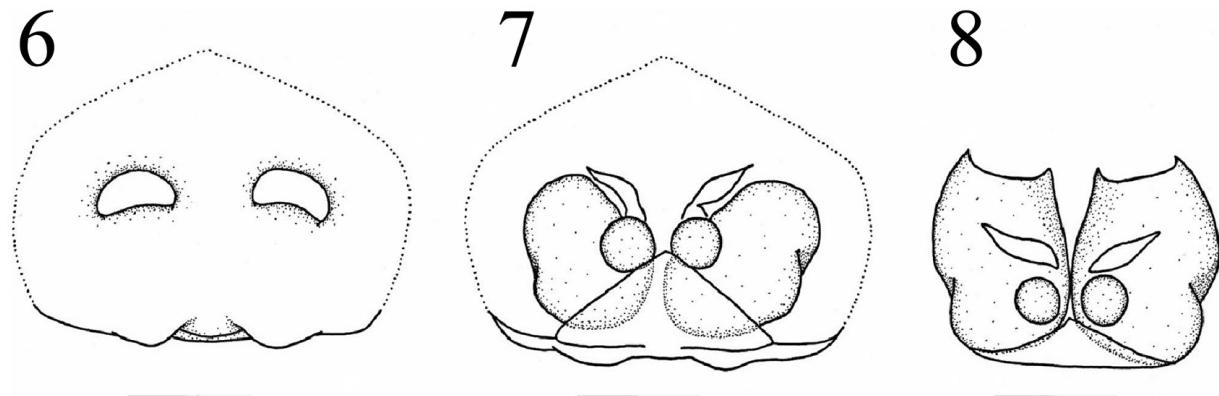
Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	2.08/1.80	1.43/1.23	1.53/1.20	1.10/0.90	0.70/0.65	6.84/5.78
II	1.90/1.78	1.33/1.20	1.33/1.08	0.98/0.83	0.60/0.60	6.14/5.49
III	2.38/2.25	1.25/1.23	1.28/1.15	1.28/1.20	0.73/0.73	6.92/6.56
IV	2.13/2.00	1.03/0.95	1.28/1.25	1.38/1.30	0.65/0.63	6.47/6.13

Table 2. Spination of legs of *Evarcha selenaria* sp. nov. (dorsal / ventral; none = no spines, r = retrolateral, p = prolateral).

Leg	Femur		Patella		Tibia		Metatarsus	
	♂	♀	♂	♀	♂	♀	♂	♀
I	0-1-1-2p,lr/none	0-1-1-2p,lr/none	1p/none	1p-0-1p-0/2-2-2	1p-0-1p-0/2-2-2	1p-0-1p-0/2-2-2	none/2-2	none/2-2
	0-1-1-1r-1-2p,lr/none	0-1-1-1r-1-2p,lr/none	1p/none	1p-0-1p-0/2-2-2	1p-0-1p-0/2-2-2	1p-0-1p-0/2-2-2	none/2-2	none/2-2
II	0-1-1r-1-1r-1-2p,lr/none	0-1-1r-1-1r-1-2p,lr/none	1p/none	1p-0-1p-0/1-2-2	1p-0-1p-0/1-2-2	1p-0-1p-0/1-2-2	none/2-2	none/2-2
	0-1-1p-1,1p-1,2p,lr/none	0-1-1p-1,1p-1,2p,lr/none	2/none	1-1-1-2/2-0-0-2p,2r	1-1-1-2/2-0-0-2p,2r	1-1-1-2/2-0-0-2p,2r	2-2/1p-2p,2r	2-2/2-2p,2r
III	0-1-1p-1,1p-1,2p,lr/none	0-1-1p-1,1p-1,2p,lr/none	2/none	2-2-2-0/0-1p-2	2-2-2-0/0-1p-2	2-2-2-0/0-1p-2	2-2-2/2-2p,2r	2-2-2/2-2p,2r
	0-1-1-1,2p,lr/none	0-1-1-3/none	2/none	2-2-2-0/0-1p-2	2-2-2-0/0-1p-2	2-2-2-0/0-1p-2	2-2-2/2-2p,2r	2-2-2/2-2p,2r
IV	0-1-1-1,2p,lr/none	0-1-1-3/none	2/none	2-2-2-0/0-1p-2	2-2-2-0/0-1p-2	2-2-2-0/0-1p-2	2-2-2/2-2p,2r	2-2-2/2-2p,2r



Figs. 3–5. *Evarcha selenaria* sp. nov. 3. Male palp, ventral view; 4. Same, retrolateral view; 5. RTA of male palp, proximal view. Scales=0.2 mm.



Figs. 6–8. *Evarcha selenaria* sp. nov. 6. Epigynum; 7. Female genitalia, dorsal view; 8. Same, anterior view. Scales=0.2 mm.

Spination of legs as shown in Table 2.

Male palp (Figs. 3–5). Three-pronged RTA characteristic. Median and dorsal projections of RTA V-shaped from proximal view. Cymbium yellowish brown with white setae. Genital bulb with a posterior projection. Femur, patella, and tibia dark brown.

Female genitalia (Figs. 6–8). Epigynum simple with a narrow septum between the copulatory openings, frequently plugged after mating. Spermathecae large and ovate, depth larger than height.

Coloration and markings. Male (Figs. 1, 9): Carapace mostly blackish brown covered with black hairs, black setae above anterior eyes, and a tuft of several setae presents below PME. Surrounding of eyes black with brown hairs. Anterior margin with a transverse band made of white hair,

which leading to behind eye field. Slope of thoracic part with dense transparent hairs. Clypeus brown with black setae. Sternum brown covered with white hairs. Chelicera blackish brown. Labium and maxilla black with light margin. Abdomen dorsally brown covered with dense hairs of two colors: black ones forming a pair of longitudinal bands and white ones covering the rest part, and anterior part with many black setae; ventrally dark brown covered with black hairs. Spinnerets dark brown. Legs: femur, patella, tibia, metatarsus blackish brown, tarsus bright brown.

Female (Fig. 2): Carapace bright brown covered with black and white hairs, scattered with setae of two colors: black on top and white on lateral, cephalic part blackish brown, and a tuft of several setae presents below PME. Surrounding of eyes black with brown and white hairs.



Fig. 9. *Evarcha selenaria* sp. nov. 9. Male (Miyakojima Is.).

Thoracic part bright brown. Slope of thoracic part with radial thin lines made of black and white hairs. Clypeus bright brown with white setae and thin bands of white hairs. Sternum yellowish brown with white hairs. Chelicera brown. Labium and maxilla bright brown with light margins. Abdomen dorsally mottled with yellowish white and dark brown covered with dense bright brown and white hairs, scattered with black and white setae, and with a pair of elliptical spots made of black hairs on posterior tip; ventrally yellowish white with a central stripe and a pair of bands made of dark gray pigments, covered with brown and white hairs. Spinnerets brown. Legs I and II: femur bright brown with distal and dorsal black parts, patella brown, tibia and metatarsus brown with black distal part, tarsus bright brown. Legs III and IV: femur, tibia and metatarsus bright brown with distal black part, patella and tarsus bright brown.

Distribution. Japan: the Sakishima Islands (Miyakojima Is., Ishigakijima Is. and Iriomotejima Is.).

Remarks. This species resembles (1) *E. albaria* (L. Koch, 1878) in the genital morphology, (2) *E. fasciata* Seo, 1992 in the female color pattern and (3) *E. bicoronata* (Simon, 1901) in the male color pattern. However, it can be distinguished from the latter species on the following points.

(1) Male of *E. selenaria* has a belt made of white hairs on anterior margin to behind eye field, while *E. albaria* has a belt on only anterior margin. Female of *E. selenaria* has radial thin lines made of black and white hairs on slope of thoracic part, while *E. albaria* does not have such lines. In *E. selenaria*, width of eye row

I / with of eye row III is less than 1.0, while in *E. albaria* it is 1.0 or over (Ikeda & Saito 1997). Also, *E. selenaria* has longer embolus and deeper spermatheca than *E. albaria*.

- (2) Male of *E. fasciata* does not have a belt made of white hairs on anterior margin. In *E. selenaria*, median and dorsal projections of RTA are V-shaped from proximal view, while in *E. fasciata* those are L-shaped (Ikeda & Saito 1997). *E. selenaria* has longer embolus and deeper spermatheca than *E. fasciata*.
- (3) The male palp of *E. bicoronata* differs from that of *E. selenaria* remarkably. The former has single RTA and simple genital bulb, according to the original description (Simon 1901).

Etymology. Specific name is derived from the crescent color pattern of male cephalic part (Fig. 9).

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